IV. REMARKS

Status of the Claims

Claim 1,6 and 18 are amended. Claims 1-14, 18 and 19 remain under consideration.

Summary of the Office Action

Claims 1-5, 6-10,18 and 19 stand rejected under 35USC102(b) on the basis of the cited reference Kragle, U.S. Patent No. 5,702,659. The Examiner is respectfully requested to reconsider his rejection in view of the above amendments and the following remarks.

Discussion of the Cited Reference

The Examiner has cited the reference Kragle in support of the rejection based on anticipation. Kragle describes a die system designed to extrude a honeycomb structure. The die system of Kragle is constructed having a multilayer interface (transition section 24) between the feed section 22 and the discharge section 28. Interface 24 is a stacked arrangement of thin plates 25. It is designed to provide a smooth transition between feed and discharge. Kragle proposes a specific solution to a problem with prior art honeycomb dies, as stated in column 5, lines 20-26, as follows:

> **"One difficulty with this die design is that the junctions or transitions represented by surfaces 15 between the feedholes 13 and the discharge slots 17 are inconsistent. That is, surfaces 15 are difficult to form with consistent smoothness and shape, and often contribute to flow disruptions which can introduce discontinuities in the walls of the extruded honeycombs."**

The die system, according to independent claims 1 and 6, as amended, is constructed with distribution passages which are

designed to supply selected flow regions of the die outlet. The flow regions are not uniform, but are selected according to critical flow related to the shape of the die outlet. The flow amongst the various distribution passages is governed by the ratio of the area of the flow region to the overall area of the die outlet. There is no such consideration in the die system of the reference Kragle. All of the distribution passages formed in the transition section, are uniform, please refer to figure 2 as compared to figure 1c of this application. It is therefore not inherent in the reference Kragle to design the distribution channels according to a ratio of the region supplied to the overall area of the die outlet profile.

The transition section of the reference Kragle is designed to provide a means to construct the flow passages of prior art honeycomb extrusion dies in a more accurate manner. The use of a laminated construction is for constructing smooth passages. There is nothing in the reference Kragle that teaches flow passages constructed to supply varying amounts of plastic to the critical areas identified in a particular extrusion die profile. There are no identified flow regions only uniformly shaped, symmetrically arranged transition section outlets. These outlets are not matched to an identified die outlet flow region. Since the extrusion die of the reference Kragle does not have these elements as described in claims 1 and 6 is does not support the rejection based on anticipation.

With respect to claims 18 and 19, the Examiner has stated that Kragle teaches as follows:

> **"....a plurality of axial assembled distribution modules having an array of distribution channels wherein the number of channels**

increase from the upstream module to an adjacent downstream module...."

This statement is not supported by the reference Kragle. There is only one transition section 24. Therefore, there can be no increase in the number of distribution channels from distribution module to distribution module, as in claim 18. The laminations of the transition section are not equivalent to the distribution modules recited in claims 18 and 19. The thin plates 25 cannot support multiple distribution channels as described in this application. Therefore, since the reference Kragle does not involve a plurality of distribution modules, it cannot support the rejection based on anticipation with respect to claims 18 and 19.

The Issue of Anticipation

The Examiner is reminded that the anticipation analysis requires a positive answer to the question of whether the system of Parks would infringe the claims of this application if it were later.

Claims 1 of this application is directed to an extrusion die having:

"....wherein said die system outlet cross section is divided into preselected flow regions, said regions identified for their critical distribution requirements and at least some of which having irregular shape with different flow requirements; and

wherein, at least one of said distribution channels provides plastic flow directly to one of said flow regions; and

further wherein the flow volume provided by said at least one distribution channel is determined by the ratio of the cross sectional area of the preselected region supplied thereby, to the cross sectional area of the die system outlet."

Claim 6 of this application is directed to an extrusion die having:

"a series of distribution channels, each channel designed to

supply a regional plastic flow according to the volume of plastic required in one of said preselected regions of said cross sectional profile, each of said distribution channels having an outlet shaped to conform to the region to which it supplies plastic flow;"

Since this feature is not present in the system of the reference Kragle, there can be no infringement of the subject claims. Therefore the teaching of Kragle does not support the rejection based on anticipation with respect to any of the claims.

These arguments apply equally to dependent claims 4,5, and 7-10.

Applying this analysis again with respect to claim 18, it becomes clear that the system of Kragle is also missing significant elements of independent claim 18. Claim 18 states:

"a plurality of axial assembled distribution modules, each of said distribution modules having an array of distribution channels constructed therein, said array of channels expanding in number in predetermined steps from an upstream distribution module to an adjacent downstream distribution module, to provide at least one flow channel for supplying plastic to each of said identified flow regions, wherein each of said distribution channels in a distribution module is constructed having a smaller cross section than the distribution channel of an immediately upstream module to provide a funnel effect from said inlet to said outlet within each of said at least one regional flow streams formed thereby."

Since the system of Kragle does not include a plurality of distribution modules, there would be no infringement, if Kragle was later, therefore, the cited reference Kragle does not support the rejection of amended claim 18 by the Examiner based on anticipation.

The above arguments are equally applicable to the rejected dependent claim 19 and new claim 20.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,

Geza C. Ziegler, Jr.
Reg. No. 44,004

24 JAN 2005
Date

Perman & Green, LLP
425 Post Road
Fairfield, CT 06824
(203) 259-1800
Customer No.: 2512

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